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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,651	03/19/2004	Donald J. Lewis	FGT 223G2 (81092775)	9642

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EXAMINER

CASTRO, ARNOLD

ART UNIT	PAPER NUMBER
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3747

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/805,651

Applicant(s)

LEWIS ET AL.

Examiner

Arnold Castro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2-04-2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Status After Amendment

1. Independent claims (1, 6, 18, 23) have been amended to include limitation "of at least one electrically actuated valve". Claim 13 has limitation "and from a plurality of engine starting positions" added. All claims pending claims 1-30 are rejected.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1-12, and 23-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Tisch et al. (US/6,050,231).

Tisch et al discloses an engine starting system having electrical valves it identifies cylinders in a common orbits about the crankshaft axis. Then sets these cylinders that are in a common orbit to intake stroke after TDC, Then setting the cylinders in compression stroke, then Power stroke, and last exhaust stoke. When a predetermined RPM is reached then 4 stroke cycles are altered for at least one cylinder so as the plurality of pistons no longer fire at same instant. Fuel injection and spark is controlled to produce desired output. A starter is disclosed that cranks the engine through the cycles when starting the engine will therefore start at various starting positions. At least two cylinders are identified as being in position to produce engine outputs desired.

Claim Rejections - 35 USC § 102

4. Claims 1-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Patent Application Publication Gerhard Brueggen et al. US 2002/0157630 A1 published October 31, 2002.

Brueggen et al. discloses a method for starting a multi-cylinder direct-injecting internal combustion engine including an engine for a motor vehicle without the aid of a starter motor, each cylinder of the engine running sequentially through an induction phase, a compression phase, a work phase and a discharge phase during operation of the engine, the method comprising the steps of: in advance of the starting operation, bringing at least one of the inlet and outlet valves of each of at least two cylinders, whose pistons are disposed in respective locations after top dead center, into a position corresponding to the work phase; injecting fuel into the combustion chambers of said two cylinders and igniting said fuel thereby triggering said starting operation; and, after an unsuccessful first ignition of fuel injected into at least two cylinders in the work phase, the method is carried out once more with inverted phases of the individual cylinders wherein the inlet and outlet valves of said individual cylinders are driven so that cylinders which were previously in said intake phase are now in said work phase and vice versa and individual cylinders which were previously in said compression phase are now in said discharge phase and vice versa. Cam free valves are used.

Response to Arguments

5. Applicant's arguments filed 4 February 2005 have been fully considered but they are not persuasive in all matters. however, the rejections regarding Brehob et al. have been withdrawn as suggested by applicant's remarks. On the other hand, Tisch et al.'s specification does not support the statements of applicant. The valve timing is not set solely on having cylinders at top dead center position as argued but rather the opposite. Since, Tisch et al, uses a starter it does not matter where the engine starts from. The cylinders are paired together due to their relationship on crankshaft and valve are controlled accordingly. Application has not claimed a starter free engine in any of the claims rejected by Tisch et al.

6. applicant's amendment has necessitated a new ground of rejection, Brueggen et al. is a starter free engine wherein the engine is brought to rest in a position for restart and cylinder pairing is used to increase torque when starting. If initial starting fails engine starts again at another position with engine cam free valves controls being adjusted for that position.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

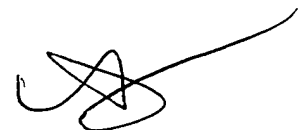
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnold Castro whose telephone number is (703) 305-0039. The examiner can normally be reached on 7:30am-5:00pm.

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yuen Henry can be reached on (703) 308-1946. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Arnold Castro
Examiner
Art Unit 3747



Henry C. Yuen
Supervisory Patent Examiner
Group 3700

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